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ABSTRACT

Launched by Unesco in cooperation with the United Nations Environmental Programme (UNEP) in 1975, the International Environmental Education Programme (IEEP) will enter its fourth phase during 1984-85. Anticipated IEEP activities are described in this newsletter. They include exchange of information and experimental data, promotion of research and experimentation, training of various categories of personnel, preparation and adaptation of educational materials, production and dissemination of experimental teaching materials for general environmental education, and regional and international cooperative efforts. Also presented are reports on: (1) an international symposium on incorporation of the environmental dimension into school curricula and teacher training (Plovdiv, Bulgaria); (2) a seminar for the European region on universities and environmental education (EE); (3) Pan Arab youth meeting on environment and EE (Cairo, Egypt); (4) an environmental training workshop in China; (5) EE activities in Cuba; (6) initiation and development of nonformal education in Portugal; and (7) a summary of the First International Congress of Biosphere Reserves (Minsk, Byelorussia). Brief news announcements on various topics and descriptions of four new EE publications are included. (BC)

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Connect

UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

Vol. VIII, No. 4, December 1983

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

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The International Environmental Education Programme 1984-1985

Launched by Unesco in cooperation with UNEP in 1975, the International Environmental Education Programme is about to enter its fourth phase, which will cover the biennium 1984-1985.

This new phase has been initiated by the 22nd General Conference of Unesco, which has just been held in Paris, France, 25 October - 26 November 1983. The Conference approved the proposed activities under **Major Programme X**, titled *The Human Environment and Terrestrial and Marine Resources*, more particularly that portion which is Programme X.9, dealing specifically with *Environmental Education and Information*. (For environmental education components of the Organization's other Major Programmes, see *Connect*, December 1982).

The purpose of the environmental education (EE) and information programme has been defined as "to promote a general awareness of the causes and the consequences for man, society and the world community of environmental problems, and to encourage the adoption, in private and professional life and in development action, of individual and collective ethics, attitudes and behaviour patterns likely to contribute to the protection and improvement of the environment".

In addition to continuing key activities of past phases of the International EE Programme, priority will be given in the new phase (1984-1985) to the development of environmental education in university teaching, technical and vocational training and out-of-school education. (EE for educational planners is also to be initiated.) As before, these activities will be undertaken in coordination with other sectors and programmes of Unesco where environmental concerns are taken into consideration. Furthermore, they will be implemented in cooperation with agencies and programmes of the UN system and appropriate intergovernmental and nongovernmental organizations. In this regard it was specially noted that "*Unesco will continue to cooperate with UNEP (United Nations Environment Programme) within the framework of the International Programme for Environmental Education*".

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Expected results. "The dissemination of information, methods, syllabuses and teaching material designed to renew national school and out-of-school education programmes and take account of environmental issues and means of improving the quality of the human habitat; /and/ the strengthening of international and regional networks of information and exchanges of experience concerning pedagogical innovations in the field of environmental education and training".

Programme Actions, 1984-1985

Exchange of information and experimental data

Action will be taken to increase the dissemination of information to Member States and the exchange of data on the results of pedagogical research and experiments, the training of personnel and the preparation of teaching and information material in the field of environmental education. *Connect* will continue to be published. The directory of projects and programmes for EE implemented by national, regional and international institutions, together with the annotated bibliography of publications existing in this field, will be updated and distributed. There will be two international symposia on exchanges of data and the formulation of strategies for incorporating issues related to the environment in school social studies and artistic education syllabuses and for developing out-of-school EE. Regional seminars will be organized, in collaboration with national institutions, for the purpose of defining strategies for the inclusion of EE in university courses.

Promotion of research and experimentation

Pedagogical research and experimentation with a view to preparing interdisciplinary curricula for environmental studies and developing teaching methods directed towards the solution of environmental problems will be strengthened and fostered, especially as far as general education at secondary and university levels, technical and vocational training and out-of-school education are concerned. To this end studies and research activities will be undertaken, in collaboration with governmental and nongovernmental institutions; they will cover, in particular, the development of active teaching methods, the pedagogical treatment of values and attitudes connected with the environment, the transfer of knowledge in out-of-school education and the evaluation of interdisciplinary and action-oriented educational processes. Projects for experimentation and innovation will be implemented in collaboration with Member States, with a view to introducing EE content and methods into school syllabuses for social studies and artistic education, into general university education, into training for certain technical and professional specializations the exercise of which affects the environment and into out-of-school education programmes; these syllabuses and programmes will make use of the mass media, in particular radio and television, and the new communications technologies (such as video equipment). The results of these research and experimentation studies and projets will be systematically used in training and for the preparation of teaching material.

Training of various categories of personnel

The training of teaching, administrative and technical staff (primary-and secondary-school teachers, instructors, curriculum design specialists, planners, etc.) responsible for the implementation and development of EE within the school system (including technical and vocational training) and the university system, and also in out-of-school education, will be strengthened and fostered. Support will continue to be provided for the organization of national in-service seminars on EE for key personnel in the school system. Regional and subregional training seminars will be organized for those who train primary — and secondary — school teachers and also for personnel responsible for educational planning. The first training seminar, intended for personnel responsible for out-of-school education (adult education, literacy programmes, etc.) and another seminar for the benefit of trainers of teachers in technical and vocational schools will be organized at subregional level. In addition, courses designed to try out innovatory systems for the in-service training of teachers and model curricula for their initial training will be developed in collaboration with the national, subregional and regional institutions competent in this field.

Preparation and adaptation of educational material

New material relating to the content and methodology of EE and training will be prepared and distributed, in collaboration with the competent institutions of Member States. Methodology manuals, sourcebooks, specimen modules of school education and audiovisual units for the out-of-school education of young people and adults, the preparation of which has already been started, will be completed, evaluated, adapted to the particular characteristics of the environment of the various countries and regions and widely distributed. The teaching material, once it has been prepared, will be translated into all the official languages of the Organization and systematically used in the various innovatory and training activities planned under the programme.

New EE and training material will be prepared and evaluated in collaboration with the competent institutions, both within the school system and in the out-of-school context. More specifically, this material will consist of a general EE module intended for top-level classes at secondary schools, audiovisual teaching material for literacy programmes and adult education programmes in rural and underpriviliged urban environments, model syllabuses for the initial and in-service training of teachers for the primary and secondary levels, a module for training educational planners and teaching material for the education and training of teachers in middle-level technical and vocational training establishments. Particular attention will be paid to the use of the various elements of the environment as teaching resources.

Production and dissemination of experimental teaching material for general environmental education

Experimental teaching material (teacher's manuals, modules, etc.), prepared in collaboration with national institutions and based upon the results of environmental research, in a form adapted to the needs of general EE, will be widely disseminated through the information and innovations networks and machinery set up under the auspices of Unesco.

Regional and international cooperation

Environmental education will be further promoted at regional level, chiefly with the assistance of Unesco's Regional Offices, and technical support will be provided to facilitate the incorporation of environmental issues into national education policies, plans and syllabuses. The existing machinery for information and exchanges of experimental data at regional level will also be reinforced. Consultation with the international institutions concerned will be developed in order to harmonize the approaches adopted to EE.

Participation programme

A contribution will be made, on request, to the activities of Member States for research and experimentation on the planning of EE and the improvement and adaptation of school syllabuses and out-of-school education programmes. Training and the exchange of experimental data in these fields will also be fostered. This contribution may take the form of consultant services, equipment or financial assistance.

Other Unesco programme actions for 1984-1985 in the field of environmental education and information will consist of the production and dissemination of scientific information on the environment in printed or audiovisual form, for teachers, decision-makers, professional groups having environment-related activities and for the media and the general public. The Man and the Biosphere (MAB) Programme exhibit on land-use planning and management is one example of the kind of didactic material whose dissemination will be continued as it is broadened to encompass new topics. Activities relating to the training of environmental lawyers, economists and engineers will also be developed.

Finally, a set of activities will concentrate on making those people whose activities give them considerable control over the environment and the management of natural resources more aware of environmental problems during their professional training. These professionals will include economists, lawyers, engineers, architects, town-planners, and instructors in technical schools. These efforts will also be conducted in cooperation with UNEP.

International EE Symposium

An international symposium on incorporation of the environmental dimension into school curricula and teacher training was held in Plovdiv, Bulgaria, 10-15 October 1983. The symposium was organized in the framework of the Unesco-UNEP International Environmental Education Programme by the Ministry of Public Education of the People's Republic of Bulgaria. Ten experts participated. They came from Afghanistan, Bulgaria, Czechoslovakia, Costa Rica, France, Indonesia, Peru, Senegal and the Ukrainian SSR. There were also 22 observers from the host country. The twofold objective of the symposium was (1) to exchange concrete and transferable results of experiences, experiments and research in EE and (2) to elaborate suggestions for future international cooperation in this sphere.

In pursuance of the twofold objective participants reported on EE activities of their respective countries with an emphasis on innovative research and experimentation. This was followed by discussions centred on analyses of the content and methodologies appropriate to environmental education and the strategies to be employed in the pre-service and in-service environmental training of teachers. Participants then went on to a consideration of priorities for future research and experimentation in EE and, finally, formulation of suggestions for furthering environmental education at the national level as well as cooperation internationally for this purpose.

To begin with, a consensus was reached on a broad definition of EE as encompassing all aspects of every type of environment. This preceded a discussion of strategies for its successful incorporation into national educational processes. First, *educational objectives* of EE were determined as pertaining to (1) personal attitudes vis-a-vis the environment; (2) methodological analysis and synthesis of environmental situations and organization of appropriate actions in response; (3) fundamental concepts of the environment (matter, energy, ecosystems, etc.); and (4) values underlying environmental choices and collective actions.

Second, EE *content* was considered to include not only the natural or environmental sciences as such, but also the social sciences as well as cultural and economic studies, since all were required for an adequate understanding of the complexities of the environment and the impacts it was experiencing. This holistic view led to recognition of the vital need for inter- and multidisciplinarity in EE as well as incorporation of environmental themes into existing disciplines.

Third, the *pedagogical approaches* of EE, based on a pedagogy of "discovery" and action" on the part of students, implied the need for teaching/learning processes that involved (1) direct student participation in environmental problem solving as well as (2) that of the professors of the various disciplines. This in turn implied innovative educational methods and practises. Pilot projects were thought particularly effective in this context, especially when they involved outside experts and community leaders. As for incorporation of an environmental dimension into current educational processes, three approaches were suggested: (1) the "pivotal discipline approach, that is, taking a subject such as geography or ecology and expanding it to include all aspects of the environment, possibly by calling on professors of other disciplines to bring their contribution; (2) the "disciplinary convergence" approach, that is, integrating into one discipline a number of neighbouring disciplines, such as the natural with the social sciences, etc.; and (3) the interdisciplinary, problem-solving project approach.

As for *teacher training* in environmental matters,

participants were of the opinion that it should concentrate on two principal aspects: (1) specific information about the environment and its problems in all their complexity; and (2) initiation into the educational "sciences" such as teaching/learning processes, communication and group work, as well as research procedures, value analysis and problem solving. In pre-service training, participants envisaged infusion of environmental themes into existing teacher training programmes as well as an overall environmental course for student teachers. In-service training, they felt, required regularly scheduled workshops and courses, but their effectiveness depended largely on the motivation of the teachers involved.

Priorities for future EE research and experimentation, according to participants, should be principally in five areas: (1) evaluation methods and tools specific to EE, because of such components as team-work, decision-making, problem-solving, value-analysis, etc.; (2) teaching/learning processes vis-a-vis perception and attitudes concerning specific local environments; (3) the organization of environmental knowledge in a systemic form; (4) pedagogical strategies; and (5) conceptualization and experimentation of overall EE systems. Suggestions for international cooperation included pilot projects and improved exchanges of information and personnel. *(A final report on the symposium will be made available during 1984).*

Universities and Environmental Education

A seminar for the European region on universities and environmental education was held within the framework of the Unesco/IAU (International Association of Universities) Joint Research Programme in Higher Education, 17-21 October 1983, Budapest, Hungary. The seminar was supported financially by UNEP. There were over thirty attending educationalists and scientists from different disciplines, who included participants, observers, organizational representatives and others. They were asked to direct their attention to the need for universities to include an environmental element in the training of those, such as engineers, teachers, administrators and industrial managers, whose professional responsibilities would involve contact with environmental problems.

Five topics were considered by the seminar: (1) the university and the concept of environmental education; (2) the content of university teaching on environmental problems; (3) the integration of teaching on environmental problems, particularly as related to the humanities and the natural, applied and social sciences; (4) teaching staff and methods for EE; and (5) the concept of EE in lifelong and post-experience education.

The *concept* of EE, it was generally agreed, was a very broad one indeed, calling on contributions from almost all the disciplines taught and studied at the university. EE *content*, in turn, depended on the knowledge and scholarly enquiry gained from individual disciplines, themselves a necessary precondition for the emergence of the interdisciplinarity required in environmental education. To these must be added ethical principles as applied to environmental behaviour. *Integration of teaching* was viewed as a key concern of EE and probably the most difficult. One suggested mode of integrated or interdisciplinary teaching was to start from a local environmental problem directly experienced by the student and from there to proceed step by step to ever greater degrees of generalization or globalization.

Teaching staff difficulties, it was felt, rose in part from the relatively new development of environmental education as well as the attitude on the part of many university administrators that the environmental sciences do not constitute a "true" discipline and therefore do not deserve full academic status. The solution would be not only to change the mentality of academics but also to establish a system of rewards, not necessarily financial, that could make the career of environmental educator more attractive and gratifying. As for the fifth topic, *EE in lifelong and post-experience education*, there was general agreement that the university should devote some of its programmes in this regard exclusively to environmental education. It was further felt that adults undergoing EE could themselves considerably enrich universities by their own experiences in environmental concerns and solutions.

A full report on the seminar will be published jointly by Unesco and IAU in French and English.

Pan Arab Youth Meeting on Environment

A Pan Arab youth meeting on environment and environmental education was held in Cairo, Egypt, 24 September-1 October 1983. It was organized by Egypt's Arab Office of Youth and Environment, a nongovernmental youth organization, and the Youth Science Clubs of Sudan. There were about 70 participants who came from twelve Arab States: Egypt, Irak, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Somalia, Sudan, Tunisia and United Arab Emirates.

Aims and objectives of the meeting included promotion of active participation by Arab youth in the protection and preservation of their environment, establishment of a cooperative relationship among Arab youth groups working in this area, discussion of major environmental problems in the Arab region and what is being done to solve them, and development of a work plan for regional EE and environmental youth activities. Among the subjects of the agenda, besides a special

treatment of environmental education, were Arab conservation strategies, sea-water pollution, energy, overpopulation and the environment, rural development, regional and international environmental activities.

Working groups were organized around these themes, governmental programmes on the environment, environmental legislation, research and youth activities. They arrived at conclusions and recommendations which were presented to the meeting together with a work plan for future environmental and educational youth activities in the Arab region. (Further information and materials are available from the Arab Office of Youth and Environment, P.O. Box 49, Manial El-Roda, Cairo, Egypt.)

EE Training Workshop in China

A training workshop on environmental education was conducted, 15-30 April 1982 at Beijing Normal University, China, in the framework of the Unesco-UNEP International EE Programme. The aims of the workshop included: promotion of the participants' understanding and knowledge of the environment and its problems; definition of the relationship between development and the environment; increase in sensitivity to changes in environmental quality and in the sense of environmental responsibility; fostering of sound environmental attitudes and behaviour; exchange of experiences; discussions on how to further develop environmental education and prepare EE materials; and finally the environmental training of teachers.

There were fifty-one trainees at the Beijing workshop, coming largely from key primary, middle and polytechnical schools as well as kindergartens of some twenty-three provinces, municipalities and autonomous regions throughout China. Some of the trainees were teachers and administrators of the host university as well as other universities and normal colleges. In addition there were four representatives of the Ministry of Education, various publishing houses and the Children's Palace. It was the first EE training workshop of China at the national level and as such received a great deal of governmental and press attention.

The workshop was divided into three stages: lectures on basic environmental science; reports on special EE subjects; and exchanges of EE experiences. There were visits as well to Beijing's environmental monitoring centre, various exhibitions and local sites. Participants agreed that children's environmental education should aim primarily at the gradual cultivation of good environmental attitudes and conduct. In middle schools more knowledge should be – and generally is – instilled by integrating environmental themes into such studies as geography, biology, chemistry, physiology and hygiene, physics, etc. In schools of higher learning, such as colleges of engineering, agriculture, medicine, economics and law, courses in environmental protection and improvement should be obligatory and universal. From the primary to the university level, out-of-school EE activities are to be incorporated into environmental education and practise.

Tasks for the near future, according to participants at the EE workshop, are: to revise and update existing teaching materials; improve methods and equipment; and organize more experimental training workshops of preferably a month's duration. Long-range goals include: research, experimentation and development of programmes for the in-service EE training of kindergarten, primary and middle school teachers; research, experimentation and development of methods and equipment for better results in training workshops; extension of in-service EE training workshops to research institutes and schools of higher learning.

It was further suggested that an environmental education centre be established in Beijing for continuing study of EE strategies, policies, systems, theories and approaches in China; that the centre undertake popularization of EE throughout the nation by means of publishing books, pictures and posters, conducting forums, training classes, exhibitions and workshops, setting up laboratories and museums, producing films, video-tapes and slides, and communicate with other nations in the spirit of international cooperation and coordination for the advancement of EE globally.

Environmental Education in Cuba

Protection and care of the environment as well as rational use of natural resources are considered tasks of such importance that they receive special attention by the state of Cuba and are embodied in its fundamental laws and regulations, including the Constitution. To this effect the Council of Ministers created the National Commission for the Protection of the Environment and the Conservation of Natural Resources. Article 14 of Basic Law No. 33 specifically established environmental education as a concern of the National System of Education. As a consequence, EE standards, texts and programmes have been set uniformly for all Cuban schools.

In the **pre-school age**, children are slowly led to an appreciation and love of the environment through nature walks, games and activities involving the care of plants and animals. Later, in school, they are systematically taught the principles of EE and given the occasion to participate in EE activities. Their education is supported

and reinforced by popular environmental programmes transmitted by the radio, television and press.

This school education is action-oriented and community-based, developing critical attitudes and socially conscious behaviour vis-à-vis the students' environment. The process involves acquisition of the knowledge, skills, values and perspectives permitting them to participate in the solution and prevention of environmental problems. Ultimately they learn about the economic, political and ecological interdependence of the contemporary world and achieve a sense of solidarity and responsibility concerning the peoples of other nations.

Concretely, at the **elementary level** (grades 1-6), pupils are exposed to their local environments, natural and built, learning through daily observations and writing about such themes as: "my street"; plants and their care; national monuments; museums; flat, hilly and mountainous lands; the sea; a river, etc. An introductory EE course occurs in the natural sciences of the first cycle for grades 3 and 4, and already incorporates an interdisciplinary approach (biological, chemical, physical and geographic concepts). In the second cycle (grades 5 to 9) EE is taught more intensively in the humanities as well as the other sciences. In elementary physical geography, for instance, an accent is placed on protection of the World Ocean. In 6th grade physical geography of the continents and exploitation of natural resources, such as minerals and water sources, are emphasized. Environmental themes are developed in the arts courses and linked to the contents of history and literature courses. Practical exercises occur in technical training courses.

At the **basic secondary level** (grades 7-9), an interdisciplinary EE programme aims at familiarizing students with a completely scientific conception of the multiple and complex nature of the environment – biotic, abiotic, socio-economic, etc. – with which people act and interact for the satisfaction of their needs. In 7th and 8th grade biology, students are taught zoology and the protection of animal wildlife; in the 9th grade this is extended to humanity and encompasses public health. In technical education, they are instructed in the safe use of machines, tools and instruments and in safety measures in general for the work environment. In the physical geography of continents and particularly Cuba for grades 7-8, earlier courses on these subjects are further developed; similarly for the arts, history and literature courses, to which visits to museums and national monuments are added as well as instruction on preservation of the nation's cultural heritage. In the physics and chemistry courses (grades 7-9), the physical and chemical aspects of the environment are considered as well as environmental concerns, such as nuclear energy installations and radio-activity. Here too the environmental problems of vehicular emissions and other sources of atmospheric pollution are taken up with due consideration of what can be done about them.

At the **pre-university secondary level** (grades 10-12), students choose courses according to the specialization that they intend to pursue at the university level. EE as such is primarily integration of an environmental dimension into these courses. For example, in 10th grade biology the protection of nature is approached through the study of diseases produced by viruses, bacteria and other micro-organisms in plants, animals and people. In the 11th and 12th grades malnutrition, human reproduction and ecological concepts, such as people in the biosphere, soil, air and water protection, are treated with consideration of the social system within which they take place. In 10th and 11th grade physical geography the impact of people upon their environment is studied as well as protection of marine resources; in physics, electromagnetic fields, radioactivity, solar radiation, etc., are studied. In 12th grade astronomy and chemistry, atmospheric conditions and pollutants are dealt with; and so on.

Optional courses contribute significantly to the objectives of EE with their special treatment of such themes as the geography of populations and cities, urbanism and nature preserves and various environmental specialities. At the **university level** EE is incorporated into the training of teachers, particularly future teachers of geography and biology, with five weeks of practical work in the field.

Environmental education of the general public is a primary concern and responsibility of the mass media in Cuba, which devote considerable time to it in regularly scheduled programmes and articles. Special television shorts have been created for this purpose as well as educational films for local projection. A number of governmental and nongovernmental organizations participate actively, as well, in nonformal EE of the general public.

Nonformal Environmental Education in Portugal

The initiation and development of nonformal environmental education in Portugal has been undertaken since 1975 by the National Service for the Participation of Peoples (NSPP), an organ of the National Commission for the Environment. This action has involved both the conceptualization and implementation of EE itself as well as clarification of the role of schools in EE activities *outside* of the school. The result has been a fluid, interdisciplinary, community-based structure, responding to needs and demands of various departments of the Ministry of Education, school boards, teachers and other individuals or institutions.

There has been a two-day exchange between the latter and the NSPP so as to improve the concepts, approaches and practises of nonformal EE nationally and locally. Noteworthy among the NSPP's activities have been: (1) establishment of a documentation centre which includes among its aims service of areas without libraries; (2) organization of study sessions on people and their environment involving lectures, films and visits, often in the framework of school programmes and including visits to school environments; there has been a special effort to link school and community, particularly at the primary level; (3) meetings for natural science teachers

and regional school inspectors which have had a multiplying effect in the environmental training and retraining of instructors; (4) similar meetings for nursing schools, at their demand, on the theme of "Health, an Environmental Phenomenon"; also the in-service education of nurses concerning the social and economic environments of their patients, a programme pursued in the framework of the Public Health Administration; (5) preparation and acquisition of films, slides and other audiovisual materials on the Portuguese environment for school and public use; and (6) publication of an EE newsletter for local authorities and all secondary schools.

Contacts are simple and direct between the NSPP and its clientele, particularly schools and other institutions. Various EE texts and publications have been made freely available to participants of the meetings mentioned and especially to students. The latter are invited to send their requests by postcard to the NSPP, specifying the book desired. It is sent to them with a card urging them to reply, in turn, with their opinion of the book, either in the form of drawings or an illustrated text. The results have been effectively used in many exhibitions and displays. Indeed, a special effort is made to have environmental displays at regional fairs and expositions, most notably one titled "The School, Child and the Environment", which has been successfully used in primary school courses. There are often group visits to these displays from all schools of the area, supported by the Ministry of the Quality of Life.

Portugal's NSPP has been particularly active in the last few years, organizing and conducting some 600 meetings for over 23,000 pupils and students.

Regional and country reports which have appeared in *Connect* since the Tbilisi Conference of 1977 follow, with the name of the region and country first and then the issue(s) of *Connect*. To these have been added the country reports appearing in the present December 1983 issue.

African Region: September 1981, March 1982; Benin: September 1983; Congo: September 1983; Ethiopia: June 1983; Senegal: December 1979, March 1983; Sierra Leone: March 1983; Uganda: June 1980; Upper Volta: March 1980, June 1983. *Arab States*: Arab Gulf States: June 1983; Egypt: March 1983. *Asian Region*: December 1979, March 1980, September 1981, June 1982; Australia: September 1980; China: December 1982; India: March 1983; Indonesia: June 1983; Japan: June 1980, March 1983; Sri Lanka: September 1982. *Europe and North America*: Bulgaria: June 1982, March 1983; Federal Republic of Germany: March 1983; Finland: March 1983; German Democratic Republic: June 1980; Poland: June 1983; Portugal: December 1983; Sweden: June 1983; USSR: March 1979, September 1983; USA: June 1979, September 1983. *Latin America and the Caribbean*: Argentina: June 1983; Costa Rica: March 1983; Cuba: December 1983; Dominican Republic: March 1981.

Biosphere Reserve Congress

Participants from 53 countries attended the First International Congress on Biosphere Reserves, held 25 September-2 October 1983 in Minsk, Byelorussia. The meeting was organized by Unesco and UNEP (United Nations Environment Programme) in cooperation with the FAO (Food and Agriculture Organization) and IUCN (International Union for the Conservation of Nature and Natural Resources) and was host to 251 scientists and conservation experts, including 125 from countries outside the Soviet Union.

The opening and closing debates were held as plenary sessions, but the main discussions were covered during three simultaneous workshops devoted to the biogeographic, the scientific and the socio-economic aspects of biosphere reserves. Each workshop drew up recommendations suggesting which areas should be stressed in the future and forming the basis of a Draft Action Plan for Biosphere Reserves to be submitted to the International Coordinating Council of the MAB Programme. Educational and training factors were taken into account.

A summary of Congress proceedings will be published during 1984 and made available (in English, French, Russian and Spanish) upon request to the MAB Secretariat at Unesco, Paris.

EE News and Publications

The Ministry of Education of **Ecuador** organized an environmental education workshop, with the aid of Unesco, for educational planners, programme developers, supervisors and teachers, 8-12 September 1982, in Quito. There were forty-four participants. The aim of the workshop was to sensitize participants to environmental problems and to the key role of environmental education in their solution and prevention. EE strategies, methods and approaches were discussed for the various levels of the school system. Among the

conclusions were recommendations that EE be made part of teacher training, that appropriate materials be prepared, that campaigns be conducted and the mass media utilized for general environmental education of the public. Ecuador's Charles Darwin Foundation for the Galapagos Isles also reports that during 1981 it conducted an EE course for natural science teachers of secondary schools along the coast. For more information on the workshop and the foundation, write: Charles Darwin Foundation, av. Cristobal Colon 535 y 6 de Diciembre, Quito, Ecuador.

The **Rwanda** Ministry of Primary and Secondary Education, with the collaboration of Unesco, organized the nation's first seminary on environmental education and training, 29 August-4 September 1982, in Kigali. The organization itself was entrusted to the NATENRWA (Nature and Environment in Rwanda) Project. The aim of the seminar was to sensitize all those involved to problems of the environment and education about them for all levels of the population, inside and outside the formal school system. The forty participants represented ministerial departments, national offices and various regional and international organizations. Their fields ranged from mathematics and physics to the natural and social sciences. Appropriate EE contents, methods and materials were discussed and developed. A full (180 p.) report on the work of the seminar has been prepared. For more information, write: Coordinator, NATENRWA Project, B.P. 816, Kigali, Rwanda.

The Ministries of Culture and National Education of **Syria** organized an environmental education workshop, 1-8 February 1983, in Damascus, with the collaboration of Unesco's Regional Office for Education. The aim of the workshop was primarily to develop scientific EE modules for primary and secondary schools as well as for out-of-school education and training. There were forty participants, who included four science supervisors of the Ministry of Education and thirty-six science teachers at the secondary level. Six modules were developed on (1) various forms of urban pollution, (2) diseases transmitted by worms and (3) by insects, (4) public health and the environment, (5) nutritional hygiene and (6) environmental diseases attributable to unsanitary, archaic practises. For more information, write: UNEP/AS, Unesco, 7, place de Fontenoy, 75700 Paris, France.

An **international symposium on environmental impact assessment** was organized by the Project Appraisal for Development Control of the University of Aberdeen, U.K., and held in Crete, Greece, 10-17 April 1983. The seventy-nine delegates included senior officials from government and international agencies, science teachers at the university level and other academics coming from twenty-six countries. Several days were devoted to presentations and discussions on recent developments in environmental impact assessment (EIA) methods and techniques, the means of improving EIA by undertaking post-development audits, and simulation modelling and experimental management. An information medium was proposed during the symposium, to be titled the *Environmental Impact Assessment Worldletter*. For more information on the international symposium or newsletter, write: PADC, University of Aberdeen, Department of Geography, High Street, Old Aberdeen AB9 2UF, U.K.

The Australian and N.S.W. Associations for Environmental Education announce a national conference on Urban Environmental Education, to be held in Sydney, 27-31 August 1984. Write: Urban Environmental Education, P.O.Box 4036, Sydney 2001, Australia. • From Ms. Tiu Salasoo, Department of Technical and Further Education, New South Wales Government, 323 Castlereagh Street, Sydney, N.S.W., **Australia** 2000: "Our Department, which caters statewide for about 300,000 students at some 70 colleges providing over 900 courses, is currently investigating the industrial need and demand for EE in vocational courses. We should like to hear whether similar work has been or is being undertaken elsewhere and would gladly share information".

Four new **publications** in the area of EE (English only) have been announced by ERIC, Ohio State University, 1200 Chambers Road, Columbus, Ohio, USA 43212: 1. *Thinking Globally and Acting Locally: EE Teaching Activities* (322 p.), by Lori Mann and William Stapp, is a collection of teaching activities for students in grades K-12 which provides a variety of approaches to help them view EE in a global context. 2. *Environmental Education in Action V: International Case Studies in EE* (327 p.), by Margaret Cowan and William Stapp, presents over 40 case studies from more than 30 nations of all regions of the world. Both formal and out-of-school activities are included. Target audiences of the reported programmes range from young children through university students and adults to total communities. 3. *Environmental Education in Action VI: Change Agents in and for EE* (307 p.), by John Disinger, contains a set of reports, selected from the ERIC data base, that focus on schools, individuals, agencies and organizations which, through their actions, have affected change in the presentation and development of EE. A broad range of levels and target audiences is represented. 4. *Improving Instruction: A Collection of Ideas and Materials for Vocational Trainers* (202 p.), by Herbert Coon, cites ideas, materials and methods useful to those involved in designing instructional programmes for water quality or other environmental protection concerns.

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